April 23, 2002

Mr. Melvin W. Lager, Jr.
Alcoa, Inc. - Warrick Operations
Bldg. 860E
P.O. Box 10
Newburgh, Indiana 47629-0010

Re: Minor Source Modification No:
**173-15352-00007**

Dear Mr. Lager:

Alcoa, Inc. - Warrick Operations applied for a Part 70 Operating Permit on September 19, 1996 for a primary aluminum processing source. An application to modify the source was received on March 5, 2002. Pursuant to 326 IAC 2-7-10.5, the following emission unit is approved for construction at the source:

One (1) degassing unit, identified as Alcan compact degassing unit, replacing the one (1) Alcoa 622 in-line degassing unit, located within the existing secondary aluminum processing unit, exhausting to Stack 134.83, capacity: 99.0 tons of molten aluminum per hour.

The Minor Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3). The source may begin operation upon issuance of the source modification approval.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, press 0 and ask for Michael S. Schaffer, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 ext. 15 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
MSS/MES
cc: File - Warrick County
U.S. EPA, Region V
Warrick County Health Department
Southwest Regional Office
Air Compliance Section Inspector - Scott Anslinger
Compliance Branch - Karen Nowak
Administrative and Development - Lisa Lawrence
Technical Support and Modeling - Michele Boner

# PART 70 MINOR SOURCE MODIFICATION
# OFFICE OF AIR QUALITY

## Alcoa, Inc. - Warrick Operations
## Jct. IN Hwys. 66 & 61
## Newburgh, Indiana 47639

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

| | |
|---|---|
| Source Modification No.: 173-15352-00007 | |
| Original signed by Paul Dubenetzky<br>Issued by:<br>Paul Dubenetzky, Branch Chief<br>Office of Air Quality | Issuance Date: April 23, 2002 |

## TABLE OF CONTENTS

**SECTION A SOURCE SUMMARY**

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the emission units contained in Conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary source.

| | |
|---|---|
| Responsible Official: | Melvin W. Lager, Jr. |
| Source Address: | Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629 |
| Mailing Address: | Bldg. 860E, P.O. Box 10, Newburgh, Indiana 47629-0010 |
| General Source Phone Number: | (812) 853-6111 |
| SIC Code: | 3334 |
| County Location: | Warrick County |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Permit Program<br>Major Source, under PSD Rules;<br>Major Source, Section 112 of the Clean Air Act<br>1 of 28 Source Categories |

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to construct and operate the following emission units and pollution control devices:

One (1) degassing unit, identified as Alcan compact degassing unit, replacing the one (1) Alcoa 622 in-line degassing unit, located within the existing secondary aluminum processing unit, exhausting to Stack 134.83, capacity: 99.0 tons of molten aluminum per hour.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source modification does not include any insignificant activities as defined in 326 IAC 2-7-1(21).

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

## SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

B.3 Revocation of Permits [326 IAC 2-1.1-9(5)] [326 IAC 2-7-10.5(i)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

## SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP and the PMP extension notification do not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The

records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this approval:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

**Testing Requirements [326 IAC 2-7-6(1)]**

C.8 Performance Testing [326 IAC 3-6] [326 IAC 2-1.1-11]

(a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this approval, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

The documentation submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**Compliance Requirements [326 IAC 2-1.1-11]**

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

**Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]**

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

**Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]**

C.12 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ

upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:

(1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.

(2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:

(1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or

(2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.

(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.

(4) Failure to take reasonable response steps shall constitute a violation of the permit.

(c) The Permittee is not required to take any further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the

Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.

(e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.13 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, Southwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967
Southwest Regional Office Telephone Number: 888-672-8323
Southwest Regional Office Facsimile. Number: 812-436-2572

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

C.15 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

(a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.16 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) The reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

**SECTION D.1 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]:** Degassing Unit

One (1) degassing unit, identified as Alcan compact degassing unit, replacing the one (1) Alcoa 622 in-line degassing unit, located within the existing secondary aluminum processing unit, exhausting to Stack 134.83, capacity: 99.0 tons of molten aluminum per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the Alcan compact degassing unit shall not exceed 51.2 pounds per hour when operating at a process weight rate of 99.0 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.2 PM and $PM_{10}$ Emissions [326 IAC 2-2]

The Permittee shall comply with the following::

(a) The throughput of molten aluminum delivered to the Alcan compact degassing unit shall not exceed 411,720 tons per twelve consecutive month period, and

(b) The PM and $PM_{10}$ emission rates shall not exceed 0.01 pounds per ton of molten aluminum.

(c) The limits contained in parts (a) and (b) will insure that the PM and $PM_{10}$ emissions shall not exceed 2.06 tons per year.

Therefore, the requirements of 326 IAC 2-2 do not apply to this minor source modification in combination with significant source modification, 173-15661-00007.

D.1.3 HCL Emissions

The HCL emissions shall be limited as follows:

(a) The throughput of molten aluminum delivered to the Alcan compact degassing unit shall not exceed 411,720 tons per twelve consecutive month period, and

(b) The HCL emission rate shall not exceed 0.04 pounds per ton of molten aluminum.

(c) Compliance with the limits contained in parts (a) and (b) will insure that the HCL emissions shall not exceed 8.23 tons per year and therefore the requirements of 326 IAC 2-7-10.5(d)(5) are not applicable.

D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this degassing unit.

D.1.5 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within 180 days of start-up of the one (1) degassing unit, identified as Alcan compact degassing unit, in order to demonstrate compliance with Conditions D.1.2 and D.1.3, the Permittee shall perform HCL, PM and $PM_{10}$ testing utilizing methods as approved by the Commissioner. $PM_{10}$ includes filterable and condensible $PM_{10}$. Testing shall be conducted in accordance with Section C-Performance Testing.

**Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]**

D.1.6 Record Keeping Requirements

(a) To document compliance with Conditions D.1.2 and D.1.3, the Permittee shall maintain monthly records of the throughput of molten aluminum delivered to the Alcan compact degassing unit.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.7 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.2 and D.1.3 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY

## PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629
Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana 47629-0010
Source Modification No.: MSM 173-15352-00007

**This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.**

Please check what document is being certified:

**9** Test Result (specify) _____

**9** Report (specify) _____

**9** Notification (specify) _____

**9** Affidavit (specify) _____

**9** Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
## COMPLIANCE DATA SECTION

**Part 70 Source Modification Quarterly Report**

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629
Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana 47629-0010
Source Modification No.: MSM 173-15352-00007
Facility: Alcan compact degassing unit
Parameter: Molten aluminum delivered to the degassing unit
Limit: 411,720 tons of molten aluminum per twelve (12) consecutive month period, equivalent to HCl emission of 8.23 tons per year.

YEAR: _____

| Month | | | |
|---|---|---|---|
| | Molten Aluminum Delivered This Month (tons) | Molten Aluminum Delivered Previous 11 Months (tons) | Molten Aluminum Delivered 12 Month Total (tons) |
| | | | |
| | | | |
| | | | |

**9** No deviation occurred in this month.

**9** Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Mail to: Permit Administration & Development Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Alcoa Inc. - Warrick Operations
Building 860E
P.O. Box 10
Newburgh, IN 47629-0010

**Affidavit of Construction**

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____, I have personal knowledge of the
(Company Name)
representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)

4. I hereby certify that Alcoa Inc. - Warrick Operations, Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629, completed construction of the degassing unit on _____ in conformity with the requirements and intent of the Part 70 Operating Permit application received by the Office of Air Quality on March 5, 2002 and as permitted pursuant to **Source Modification No. 173-15352-00007** issued on .

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

_____
Signature

_____
Date

STATE OF INDIANA)
)SS
COUNTY OF _____ )

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana on this _____ day of _____, 20 _____ .

My Commission expires: _____ .

_____
Signature

_____
Name (typed or printed)

# Indiana Department of Environmental Management
# Office of Air Quality

## Technical Support Document (TSD) for a Part 70
## Minor Source Modification

### Source Background and Description

| | |
|---|---|
| **Source Name:** | **Alcoa, Inc. - Warrick Operations** |
| **Source Location:** | **Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629** |
| **County:** | **Warrick** |
| **SIC Code:** | **3334** |
| **Operation Permit No.:** | **T 173-6627-00007** |
| **Operation Permit Issuance Date:** | **Yet Issued** |
| **Minor Source Modification No.:** | **MSM 173-15352-00007** |
| **Permit Reviewer:** | **Michael S. Schaffer** |

The Office of Air Quality (OAQ) has reviewed a modification application from Alcoa, Inc. - Warrick Operations relating to the construction and operation of the following emission unit:

One (1) degassing unit, identified as Alcan compact degassing unit, replacing the one (1) Alcoa 622 in-line degassing unit, located within the existing secondary aluminum processing unit, exhausting to Stack 134.83, capacity: 99.0 tons of molten aluminum per hour.

### History

On March 5, 2002**,** Alcoa, Inc. - Warrick Operations submitted a modification application to the OAQ requesting to replace the existing Alcoa 622 degassing unit with an Alcan compact degassing (ACD) unit. The proposed replacement will be part of the existing secondary aluminum processing unit (SAPU).

Pursuant to 40 CFR 63.1503, Subpart RRR, the replacement of an in-line fluxer is not considered a reconstruction. Therefore, the proposed unit will not be subject to the requirements of Subpart RRR until March 24, 2003 when the existing SAPU will become subject to the requirements of this rule. The requirements of Subpart RRR will be contained in the Part 70 Operating Permit for the source, including the SAPU. Alcoa, Inc. - Warrick Operations applied for a Part 70 Operating Permit, T 173-6627-00007 on September 19, 1996.

The source proposed to limit the throughput of molten aluminum to the degasser to 411,720 tons of aluminum per year. This throughput is equivalent to limiting the potential to emit a single hazardous air pollutant (HAP) to less than ten (10) tons per year. Thus, this modification is a minor source modification pursuant to 326 IAC 2-7-10.5(d)(5), rather than a significant source modification that would have been required without this throughput limit.

There were two modifications within the last twelve (12) months. The only pertinent modification is the addition of an anode butt blast machine #1 covered by Significant Source Modification 173-14145-00007, issued on July 7, 2001. The potential to emit PM and $PM_{10}$ after controls and any applicable limits were both 9.37 tons per year. The latest Minor Source Modification, 173-14944-

00007, issued on December 5, 2001, was a modification to the Minor Source Modification 173-12886-00007, issued on February 1, 2001 to limit PM and $PM_{10}$ emissions for the scalper step cutter from 10.21 to 4.28 tons per year. Thus, this reduction in PM and $PM_{10}$ emissions does not reflect new construction or an increase in emissions within the last 12 months of when the scalper step cutter was originally permitted.

**Existing Approvals**

The source applied for a Part 70 Operating Permit on September 19, 1996. The source has been operating under previous approvals including, but not limited to, the following:

(a) Minor Source Modification 173-14944-00007, issued on December 5, 2001;

(b) Significant Source Modification 173-14145-00007, issued on July 7, 2001;

(c) Minor Source Modification 173-12886-00007, issued on February 1, 2001;

(d) Minor Permit Modification 173-12588-00007, issued on October 10, 2000;

(e) Minor Source Modification 173-12676-00007, issued on October 2, 2000;

(f) Minor Permit Modification 173-11419-00007, issued on June 9, 2000;

(g) Significant Source Modification 173-11342-00007, issued on May 22, 2000;

(h) Significant Source Modification 173-11598-00007, issued on February 3, 2000;

(i) Administrative Amendment 173-11403-00007, issued on January 28, 2000;

(j) CP 173-11414-00007, issued on December 15, 1999;

(k) CP 10913-00007, issued on October 1, 1999;

(l) Exemption 173-10598-00007, issued on September 20, 1999;

(m) Minor Source Modification 173-10959-00007, issued on July 15, 1999;

(n) Exemption 173-10142-00007, issued on October 28, 1998;

(o) Registration 173-9960-00007, issued on August 6, 1998;

(p) Registration 173-9574-00007, issued on August 6, 1998;

(q) Exemption 173-9620-00007, issued on June 17, 1998;

(r) Exemption 173-9644-00007, issued on May 5, 1998;

(s) Administrative Amendment 173-8566-00007, issued on May 29, 1997;

(t) Registration 173-8161-00007, issued on May 19, 1997;

(u) Registration 173-8193-00007, issued on May 13, 1997;

(v) Administrative Amendment 173-6196-00007, issued on September 27, 1996;

(w) Registration 173-6325-00007, issued on August 28, 1996;

(x) Administrative Amendment 173-5524-00007, issued on May 6, 1996;

(y) Registration 173-5449-00007, issued on April 11, 1996;

(z) Administrative Amendment 173-4611-00007, issued on November 30, 1995; and

(aa) CP173-4501-00007, issued on June 16, 1995.

**Enforcement Issue**

There are no enforcement actions pending.

**Stack Summary**

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature (EF) |
|---|---|---|---|---|---|
| 134.83 | Degassing | 129 | 62.49 | 36,630 | 270 |

**Recommendation**

The staff recommends to the Commissioner that the Part 70 Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on March 5, 2002.

**Emission Calculations**

See pages 1 of 1 of Appendix A of this document for detailed emissions calculations. The emission factors for PM, $PM_{10}$ and HCL are the allowable emission rates from NESHAP Subpart RRR.

**Potential To Emit of Modification**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

| Pollutant | Potential To Emit (tons/year) |
|---|---|
| PM | 4.34 |
| $PM_{10}$ | 4.34 |
| $SO_2$ | -- |
| VOC | -- |
| CO | -- |
| $NO_X$ | -- |

| HAPs | Potential To Emit (tons/year) |
|---|---|
| HCl | 17.3 |
| TOTAL | 17.3 |

**Justification for Modification**

(a) A Part 70 Minor Source Modification to a yet to be issued Part 70 Operating Permit is proposed because the limited potential to emit a single HAP (HCL) will be less than ten (10) tons per year and the potential to emit PM and $PM_{10}$ is also less than twenty-five (25) tons per year. This modification is being performed pursuant to 326 IAC 2-7-10.5(d)(5).

(b) The approval of this Minor Source Modification will allow the source to construct and operate since the Part 70 Operating Permit for this source has not been issued yet.

**County Attainment Status**

The source is located in Warrick County.

| Pollutant | Status |
|---|---|
| $PM_{10}$ | attainment |
| $SO_2$ | attainment |
| $NO_2$ | attainment |
| Ozone | attainment |
| CO | attainment |
| Lead | attainment |

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Warrick County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Warrick County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

**Source Status**

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

| Pollutant | Emissions (tons/year) |
|---|---|
| PM | Greater than 250 |
| $PM_{10}$ | Greater than 250 |
| $SO_2$ | Greater than 250 |
| VOC | Greater than 250 |
| CO | Greater than 250 |
| NOx | Greater than 250 |

This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and since this source is a primary aluminum reduction source, it is one of the 28 listed source categories.

These emissions are based upon Alcoa Inc., Warrick Operations Annual Source Emission Statement.

**Potential to Emit of Modification After Issuance**

| **Pollutant** | **PM** (tons/yr) | **$PM_{10}$** (tons/yr) | **$SO_2$** (tons/yr) | **VOC** (tons/yr) | **CO** (tons/yr) | **$NO_X$** (tons/yr) | **HAPs** (tons/yr) |
|---|---|---|---|---|---|---|---|
| Proposed Modification | 2.06 | 2.06 | -- | -- | -- | -- | 8.23 |
| Past Actual Emissions | 4.69 | 4.69 | -- | -- | -- | -- | -- |
| Net Emissions | -2.63 | -2.63 | -- | -- | -- | -- | -- |
| PSD Significant Level | 25 | 15 | 40 | 40 | 100 | 40 | -- |

The limited throughput of molten aluminum of 411,720 tons of molten aluminum per year is required to limit a single HAP to less than ten (10) tons per year so that this modification is processed as a minor modification pursuant to 326 IAC 2-7-10.5(d)(5). This throughput limit of molten aluminum also limits PM and $PM_{10}$ emissions. The total emissions of $PM_{10}$ from this minor source modification and the pending significant source modification, 173-15661-00007 are, in combination, less than the PSD Significant levels. In the pending significant source modification 173-15661-00007, the net emissions will not exceed the PSD significant levels. Furthermore, even the full potential PM and $PM_{10}$ emissions without the throughput limitation accounting for the past actual PM and $PM_{10}$ emissions will when combined with the net emissions of SSM 173-15661-00007, will result in PM

and $PM_{10}$ emissions less than the PSD significant levels. The past actual emissions are the average actual annual emissions for 2000 and 2001 for the existing degassing unit that is being replaced.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T 173-6627-00007) application on September 19, 1996. The degasser, known as the Alcan compact degassing unit being reviewed under this permit shall be incorporated into the submitted Part 70 application.

**Federal Rule Applicability**

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(b) The degassing unit, known as the Alcan compact degassing unit, will be subject to the National Emission Standards for Hazardous Air Pollutants, 326 IAC 14, (40 CFR Part 63.1502, Subpart RRR) because it will be part of an existing secondary aluminum processing unit. All the requirements of Subpart RRR will be included in the Part 70 Operating Permit T 173-6627-00007.

**State Rule Applicability - Entire Source**

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

Contrary to past Technical Support Documents for at least the last two (2) approvals (Minor Source Modification 173-14944-00007, issued on December 5, 2001 and Significant Source Modification 173-14145-00007, issued on July 7, 2001) this source is one of the 28 major source categories and therefore, fugitive emissions are counted toward the determination of PSD applicability. Regardless, this source is an existing major PSD source.

326 IAC 5-1 (Opacity)

The proposed degassing unit will share Stack 134.83 with the existing #8 EMC East holding furnace. Pursuant to the Federal Register dated July 5, 2000 (Volume 65, Number 129), the East and West holding furnace exhaust stacks at the #8 Complex (EMC) were approved an alternative opacity limitation during fluxing operations effective September 5, 2000. The alternate opacity limit for these stacks, during fluxing operations of the #8 EMC East and West holding furnaces, is expressed as follows:

> For the East and West holding furnace exhaust stacks at the #8 Complex (EMC), the revised limit allows opacity during fluxing up to 85 percent for 2 six-minute averaging periods, and up to 80 percent opacity for 4 additional six-minute averaging periods. During all other portions of the production cycle, the opacity of emissions from the EMC continues to be limited to 40 percent. Fluxing typically lasts 12 - 15 minutes of the 3 - 4 hour production cycle for the EMC, but can last as long as 35 minutes.

It has been determined that these alternative opacity limits will not apply to the proposed degassing

unit since these alternative limits were intended for the furnace operation, only, and are not applicable to the proposed degasser. Since the degassing unit will not operate concurrently with the furnace, it will be possible to assess compliance with the normal opacity limitations of 326 IAC 5-1-2 for the proposed unit.

Therefore, pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR Part 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**State Rule Applicability - Individual Facilities**

326 IAC 1-6-3 (Preventive Maintenance Plan)

Until March 23, 2003, the final compliance date for Subpart RRR, a Preventive Maintenance Plan (PMP) to fulfill the requirements of 326 IAC 1-6-3 (Preventive Maintenance Plan) is required for the Alcan compact degassing unit. After March 23, 2003, the PMP required by NESHAP, Subpart RRR will also satisfy the requirements of a PMP mandated by this minor source modification for this emission unit when both PMPs are in effect. The PMP required by this modification can be written so that it also fulfills the requirements of Subpart RRR. This will allow for the preparation of a single PMP for the proposed degasser.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the Alcan compact degassing unit shall not exceed 51.2 pounds per hour when operating at a process weight rate of 99.0 tons of molten aluminum per hour.

The PM emissions from Alcan compact degassing unit are 0.990 pounds per hour which is less than the allowable PM emission rate of 51.2 pounds per hour. Therefore, the Alcan compact degassing unit will be in compliance with this rule.

**Testing**

Stack testing of the degassing unit, known as the Alcan compact degassing unit, is required at this time to verify the emission rates of 0.04 pounds per ton of feed for HCL and 0.01 pounds per ton of feed for particulate matter and $PM_{10}$. The proposed unit is not considered a reconstruction and therefore Subpart RRR will not be immediately applicable when the unit is constructed. The compliance date for existing SAPUs subject to the requirements of Subpart RRR is March 23, 2003.

**Compliance Requirements**

There are no applicable compliance monitoring requirements for the proposed degassing unit, known as the Alcan compact degassing unit.

**Conclusion**

The construction and operation of this Alcan compact degassing unit within the existing secondary aluminum processing unit, shall be subject to the conditions of the attached proposed Minor Source Modification No. 173-15352-00007.

## Appendix A: Emission Calculations

**Company Name:** Alcoa, Inc. - Warrick Operations
**Plant Location:** Jct. Ind. Hwys. 66 & 61, Newburgh, Indiana 47629-0010
**Source Mod:** 173-15352
**Plt ID:** 173-00007
**Permit Reviewer:** Michael S. Schaffer
**Date:** March 5, 2002

**Alcan Compact Degassing Unit Replacing the Alcoa 622 in-line Degassing Unit**

**Alcan Compact Degassing Unit Emissions**

| Pollutant | Maximum Molten Aluminum Processing Rate (tons/yr) | Limited Molten Aluminum Processing Rate (tons/yr) | Emission Factor (lbs/ton) | Potential to Emit at Maximum Capacity (tons/yr) | Potential to Emit at Limited Throughput (tons/yr) |
|---|---|---|---|---|---|
| PM | 867240 | 411720 | 0.01 | **4.34** | **2.06** |
| | | | | | |
| **HAPs** | | | | | |
| HCl | 867240 | 411720 | 0.04 | **17.3** | **8.23** |
| | | | | | |

**PSD Netting Credit**

| Pollutant | Alcoa 622 in-line Degassing Unit 2000 Actual Emissions (tons/yr) | Alcoa 622 in-line Degassing Unit 2001 Actual Emissions (tons/yr) | Alcoa 622 in-line Degassing Unit Average Actual Emissions (tons/yr) | Net Emissions (tons/yr) |
|---|---|---|---|---|
| PM | **4.74** | **4.63** | **4.69** | **-2.63** |

**Methodology**

Note: Capacity is 99.0 tons of molten aluminum per hour

Molten aluminum processing rate x Emission Factor * 1 ton/2000 lbs = Maximum Potential Emissions

Note: Actual emissions are greater than the PTE because the emission factor used to compute the average actuals was not pursuant to Subpart RRR that will be required to be complied with in the future. Emission factors are the limits pursuant to Subpart RRR

Net Emission = PTE at limited throughput - average actual 2000 and 2001 Emissions